REMARKS

I. Introduction

In response to the Office Action dated April 19, 2005, claims 1, 16, and 23 have been amended. Claims 1-37 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Claim Amendments

Applicants' attorney has made amendments to the claims as indicated above. These amendments were made solely for the purpose of clarifying the language of the claims, and were not required for purposes of patentability.

III. Office Action Objections

The Office Action objects to the drawings on the basis that FIGs. 1 and 2 should be labeled as prior art. The Applicants have amended FIGs. 1A-1C and 2A-2C. Included herewith are Proposed Drawing Changes.

The Office Action objects to the disclosure because of an informality in paragraph [0037]. The Applicants thank the Examiner for noting this error and have amended the application accordingly.

IV. Office Action Double Patenting Rejection

On page (25), the Office Action identifies claims 1, 2, 5-7, 10, 12-15, 23, 24, 27-29, 32, and 34-37 as having conflicting claims with claims 1, 4-12, 19, and 22-30 co-pending application serial number 10/068,039. The Applicants respectfully traverse these rejections, as the foregoing claims are not conflicting.

For example, claim 1 of application 10/068,039 recites "a digital-to-analog encoder" having features not recited in claim 1 of the instant application.

Also, claim 16 of the instant application recites a second demodulator and second decoder that are not recited in claim 13 of application serial number 10/068,039.

Finally, claim 19 of application 10/068,039 recites features not claimed in the instant application.

If the Examiner still believes that the claims of the instant application conflict with those of 10/068,039, the Applicant would appreciate an indication of which claims conflict with either application, or the Examiner is encouraged to contact the undersigned attorney to discuss same.

On page (26), the Office Action provisionally rejects claim(s) 1, 2, 5-7, 10, 12-15, 23, 24, 27-29, 32, and 34-37 under the judicially-created doctrine of double patenting as being unpatentable over claims 1, 4-12, 19, and 22-30 co-pending application serial number 10/068,039.

The Applicants respectfully traverse all of these rejections, but will file a terminal disclaimer if necessary to moot this rejection when allowable subject matter is identified.

V. The Cited References and the Subject Invention

A. The Ishio Reference

U.S. Patent No. 4,039,961, issued August 2, 1977 to Ishio et al. discloses a demodulator for combined digital amplitude and phase keyed modulation signals. A digital carrier signal demodulation circuit is used in the carrier digital transmission system utilizing a 16-ary APK (Amplitude and Phase Keying) signal produced by the vector superposition of a second path signal consisting of a four-phase shift keying signal upon each phase of a first path signal consisting of a four-phase shift keying signal, the level of the second path signal being lower than that of the first path signal. The received 16-ary APK signal is detected with the reference carrier extracted from the received signal, regenerated to reproduce the base band pulses of the first path signal. The recovered base band pulses remodulate the reference carrier to produce the first path signal. The phases of the recovered first path signal and received signal are compared to phase lock a voltage controlled oscillator thereby producing the reference character.

B. The Arslan Reference

U.S. Patent No. 6,574,235, issued June 3, 2003 to Arslan et al. discloses methods of receiving co-channel signals by channel separation and successive cancellation and related receivers. The method receives a plurality of communications from a respective plurality of transmitters using a common carrier frequency including receiving a plurality of information signals on a common carrier

frequency corresponding to the plurality of communications from the plurality of transmitters, and generates first and second separated signals corresponding to respective first and second ones of the information signals so that the first separated signal includes a primary component corresponding to the first information signal and so that the second separated signal includes a primary component corresponding to the second information signal. The first separated signal is demodulated to provide an estimate of a first information sequence corresponding to the first information signal, and the estimate of the first information sequence is modulated to provide a modulated estimate of the first information sequence. The modulated estimate of the first information sequence is subtracted from the second separated signal to provide an improved second separated signal. The improved second separated signal is demodulated to provide an estimate of a second information sequence corresponding to the second information signal. Related receivers are also discussed.

C. The Anderson Reference

U.S. Patent No. 6,297,691, issued October 2, 2001 to Anderson et al. discloses a method and apparatus for demodulating coherent and non-coherent modulated signals. A receiver receives modulated message signals in non-coherent FSK and coherent 8PSK protocols. A selectively configurable processor demodulates the message signals, and includes a demodulator that derives in-phase and quadrature signals based on the message signals. A phase detector is responsive to the in-phase and quadrature signals and delayed in-phase and quadrature signals to derive a phase signal. A selector is responsive to the in-phase and quadrature signals to selectively connect a loop filter between the phase detector and the demodulator. When the selector connects the filter between the phase detector and demodulator, the demodulator is responsive to filtered phase signals to lock onto a frequency of the message signals so that the processor operates as a phase locked loop to demodulate coherent modulated signals. When the selector disconnects the filter from between the phase detector and the demodulator, the demodulator demodulates non-coherent modulated signals and the phase detector supplies a phase signal representing the slope of the phase of the demodulated signal.

D. The Ben-Efraim Reference

U.S. Patent No. 5,999,793, issued December 7, 1999 to Ben-Efraim et al. discloses a satellite receiver tuner chip with frequency synthesizer having an externally configurable charge pump. The '793 patent discloses an improved DBS receiver front end architecture having a tuner chip and a demodulator/decoder chip. The front end includes a frequency synthesizer with an externally configurable charge pump on the tuner chip. The charge pump is coupled to a tank circuit having an adjustable resonance frequency. The resonance frequency can be adjusted over an entire octave by controlling the reverse bias voltage on a pair of varactors. A charge pump with a configurable gain is used to provide a control voltage to the tank circuit to provide a constant phase locked loop response over the frequency range of the tank circuit. Broadly speaking, the present invention concerns a DBS receiver front end which includes a tuner chip and a demodulator/decoder chip. The tuner chip is coupled to receive a receive signal and convert it to a baseband signal. The tuner chip includes an externally configurable charge pump, a tuning oscillator, and a downconverter. The charge pump receives binary inputs indicating a desired gain and responsively amplifies a phase difference signal by the desired gain to provide a correction signal to a loop filter. The loop filter is coupled to adjust a resonance frequency control voltage in a tank circuit according to the correction signal The tuning oscillator oscillates at the resonance frequency of the tank circuit. The downconverter receives a tuning frequency signal provided by the tuning oscillator, and combines it with a receive signal to produce a product signal.

VI. <u>Office Action Prior Art Rejections</u>

A. Rejections Under 35 U.S.C. § 102(b)

On page (2), the Office Action rejected claims 1-37 under 35 U.S.C. § 102(b) as being anticipated by Ishio et al., U.S. Patent No. 4,039,961 (Ishio). Applicants respectfully traverse these rejections.

<u>With Respect to Claims 1 and 23</u>: Claim 1 recites:

An apparatus for receiving a non-coherent layered modulation signal, comprising:

a tuner for receiving the non-coherent layered signal and producing a layered in-phase signal and a layered quadrature signal therefrom;

an analog-to-digital converter for digitizing the layered in-phase signal and the layered quadrature signal; and

a processor for decoding the layered in-phase signal and the layered quadrature signal to produce one or more discrete layer signals.

The Ishio reference does not disclose a tuner for receiving a non-coherent layered signal. On this basis alone, claim 1, as amended is patentable over the Ishio reference.

The Office Action indicates that the Ishio reference discloses an A/D converter for digitizing the layered in-phase signal and the layered quadrature signal as block 16 and in the specification as follows:

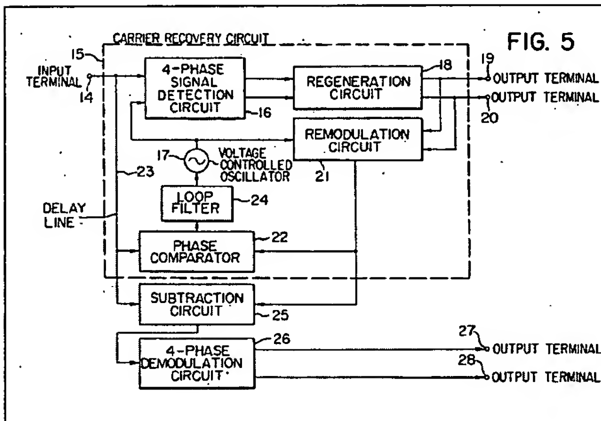

FIG. 5

Referring to FIG. 5, the first embodiment of a demodulation circuit in accordance with the present invention will be described. The input 16-ary APK signal is applied from an input terminal 14 to a four-phase signal detection circuit 16 in a carrier recovery circuit 15 (a block indicated by the dotted lines) to be coherently detected with the reference carriers of the X-and Y-axes phase shown in FIG. 4 which is produced by a voltage controlled oscillator 17. The detected output is discriminated by a regeneration circuit 18 in order to detect the quadrant in which the signal vector is present (See FIG. 4), and the outputs derived from output terminals 19 and 20 correspond to the base band pulses applied to the input terminals ch1 and ch2 shown in FIG. 3.

The Applicants do not believe that the foregoing teaches digitizing the layered in phase signal and the layered quadrature signal. All it appears to teach is a 4 phase signal detection circuit that is applied to a 16-ary APK signal. Accordingly, the Applicants respectfully traverse.

Claim 23 recites analogous features and is patentable over the Ishio reference for the same reasons.

<u>With Respect to Claims 4 and 25</u>: Claims 4 and 25 recite that the processor performs frequency acquisition on the layered quadrature signal. According to the Office Action, this is disclosed as follows:

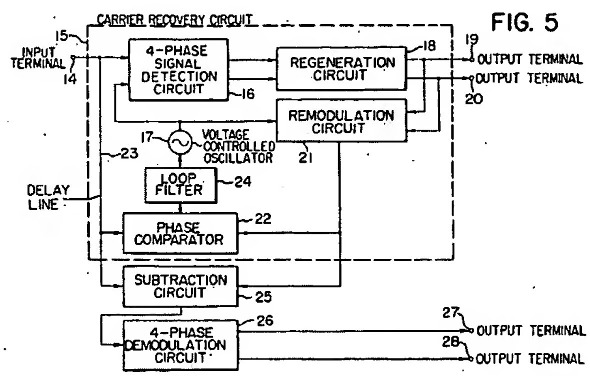

FIG. 5

The outputs from the regeneration circuit **18** are also applied to a re-modulation circuit **21** in order to modulate the reference carrier from the oscillator **17** into the four-phase modulated signal corresponding to the signal vector indicated by the solid line segment in FIG. **4.** That is, the first path signal is regenerated. The first path signal is applied to a phase comparator **22,** to which is also applied the input signal which has been delayed by a delay line **23** by a time equal to the signal transmission delay time from the input terminal to the output of the re-modulation circuit **21.** The output from the phase comparator **22** which compares the phase between the first pulse signal and the input signal from the input terminal **14,** is applied through a loop filter **24** to the oscillator **17** as the control voltage. Since one of the two input signals applied to the phase comparator **22** is the first path signal while the other, the resultant or sum signal of the addition of the first and second path signal vectors, their amplitudes and phases are not exactly coincident, but the second path signal may be considered as an interference signal to the first path signal so that when the difference in level between the first and second path signals is suitably selected, the satisfactory operation of the loop controlling the oscillator **17** may be ensured.

However, the foregoing appears to disclose a phase comparator circuit, it does not appear to disclose a processor performing frequency acquisition of the layered quadrature signal. Accordingly, the Applicants respectfully traverse.

<u>With Respect to Claims 5 and 27:</u> The Office Action indicates that the following:

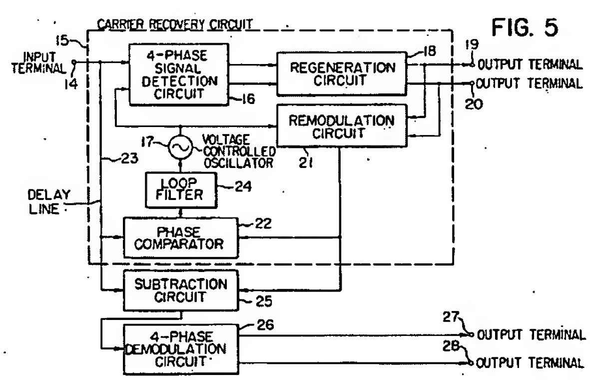

FIG. 5

Referring to FIG. **5,** the first embodiment of a demodulation circuit in accordance with the present invention will be described. The input 16-ary APK signal is applied from an input terminal **14** to a four-phase signal detection circuit **16** in a carrier recovery circuit **15** (a block indicated by the dotted lines) to be coherently detected with the reference carriers of the X-and Y-axes phase shown in FIG. **4** which is produced by a voltage controlled oscillator **17.** The detected output is discriminated by a regeneration circuit **18** in order to detect the quadrant in which the signal vector is present (See FIG. 4), and the outputs derived from output terminals **19** and **20** correspond to the base band pulses applied to the input terminals **ch1** and **ch2** shown in FIG. **3.**

discloses match filtering the layered in-phase signal and the layered quadrature signal.

As a threshold matter, claim 5 indicates that what the processor matches is the layered in-phase signal and the layered quadrature signal. The rejection of claim 1 indicates that block 16 generates these values. If this were true, the Applicants do not understand where the foregoing teaches the match filtering of these signals, as recited in claim 5.

With Respect to Claims 11 and 33: Claim 11 recites:

The apparatus of Claim 10, wherein delaying the layered in-phase signal and the layered quadrature signal are delayed by correlating to the ideal in-phase upper layer signal and the ideal quadrature upper layer signal.

According to the Office Action, these features are disclosed by the delay line 23 of FIG. 5 and the line 23 of column 4 of the specification as follows:

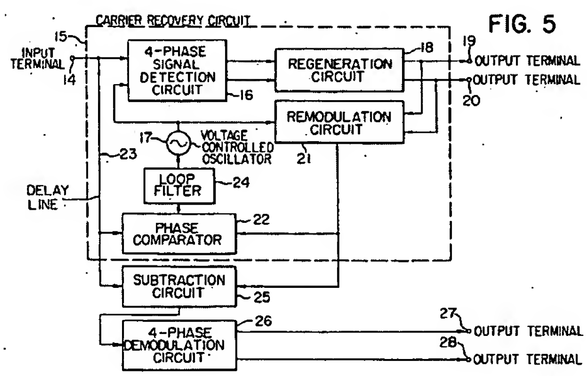

FIG. 5

The outputs from the regeneration circuit **18** are also applied to a re-modulation circuit **21** in order to modulate the reference carrier from the oscillator **17** into the four-phase modulated signal corresponding to the signal vector indicated by the solid line segment in FIG. 4. That is, the first path signal is regenerated. The first path signal is applied to a phase comparator **22**, to which is also applied the input signal which has been delayed by a delay line **23** by a time equal to the signal transmission delay time from the input terminal to the output of the re-modulation circuit **21**. The output from the phase comparator **22** which compares the phase between the first pulse signal and the input signal from the input terminal **14**, is applied through a loop filter **24** to the oscillator **17** as the control voltage. Since one of the two input signals applied to the phase comparator **22** is the first path signal while the other, the resultant or sum signal of the addition of the first and second path signal vectors, their amplitudes and phases are not exactly coincident, but the second path signal may be considered as an interference signal to the first path signal so that when the difference in level between the first and second path signals is suitably selected, the satisfactory operation of the loop controlling the oscillator **17** may be ensured.

The foregoing merely teaches delaying the signal by a time equal to the signal transmission delay time from the input terminal to the output of the remodulation circuit. It does not, however, disclose that this is accomplished by correlating the ideal in-phase upper layer signal with the ideal quadrature layer signal, as recited in claim 11.

Claim 33 recites analogous features and is patentable for the same reasons.

<u>With Respect to Claims 14 and 36</u>: Claim 14 recites:

The apparatus of Claim 12, wherein signal processing the ideal in-phase upper layer signal and the ideal quadrature upper layer signal comprises applying a signal map to the ideal in-phase upper layer signal

and the ideal quadrature upper layer signal, the signal map accounting for transmission distortions of the layered signal.

According to the Office Action, this is disclosed by the remodulation circuit 21 of FIG. 5 and in the following text:

> **The outputs from the regeneration circuit 18 are also applied to a re-modulation circuit 21 in order to modulate the reference carrier from the oscillator 17 into the four-phase modulated signal corresponding to the signal vector indicated by the solid line segment in FIG. 4.**

However, the foregoing merely teaches remodulation … there is no disclosure or teaching of the use of a signal map to account for transmission distortions.

With Respect to Claim 16: Claim 16 recites:

A processor for decoding a non-coherent layered signal into separate signal layers, comprising:
a first demodulator and first decoder for decoding an upper layer signal from the non-coherent layered signal and providing the decoded upper layer signal at a first output;
an encoder for generating an ideal upper layer signal from the decoded upper layer signal;
a signal processor for modifying the ideal upper layer signal to characterize transmission and processing effects;
a subtractor for subtracting the modified ideal upper layer signal from the layered signal to produce a lower layer signal; and
a second demodulator and second decoder for decoding the lower layer signal and providing the decoded lower layer signal at a second output.

The Ishio reference fails to teach a demodulator and first decoder for decoding an upper layer signal from a non-coherent layered signal. Ishio also fails to teach a signal processor for modifying the ideal upper layer signal to characterize transmission and processing effects. The Office Action relies on FIG. 5 of the Ishio reference and the following text:

> **The outputs from the regeneration circuit 18 are also applied to a re-modulation circuit 21 in order to modulate the reference carrier from the oscillator 17 into the four-phase modulated signal corresponding to the signal**

but this does not teach modifying the upper layer signal to characterize transmission and processing effects, as recited in claim 16.

With Respect to Claims 17-22: Claims 17-22 are patentable for the same reasons as claim 16, and also because they recite other features not disclosed or taught by the Ishio reference as described above with respect to claims 2-15.

B. Rejections Under 35 U.S.C. § 103(a)

1. The Rejection Based on Arslan in View of Ishio

On page (7), the Office Action rejected claims 1-37 under 35 U.S.C. § 103(a) as unpatentable over Arslan et al., U.S. Patent No. 6,574,235 (Arslan) and further in view of Ishio. Applicants respectfully traverse these rejections.

Regarding the Combination of the Arslan and Ishio References and Non-Coherent Layered Modulation: As the Office Action acknowledges, Arslan does not teach the use of layered modulation. Nonetheless, it is argued that it would have been obvious to one of ordinary skill in the art to use the receiver disclosed by Arslan to receive the layered signals disclosed by Ishio because it would increase the information transmission rate of the system.

The Applicants respectfully disagree. Arslan teaches a communications system wherein signals are transmitted over a shared frequency band. However, the signals transmitted by transmitters other than the desired transmitter (in the specific case of Arslan, by different cell phones) are regarded as *interference* that need to be discriminated and rejected:

> Due to the limited availability of the signal spectrum, cellular radiotelephone systems have been developed wherein carrier frequencies are re-used in distant cells to increase spectral efficiency. Because of this frequency reuse, however, co-channel interference may be present at both mobile terminals and base stations. In response, there have been efforts to develop signal enhancing receivers to reduce the effects of co-channel interference. For example, see the reference by Medepalli et al. entitled "Combined Equalization And CoChannel Interference Cancellation For The Downlink Using Tentative Decisions" (IEEE 1999) the disclosure of which is hereby incorporated herein in its entirety by reference.
>
> The effects of co-channel interference (CCI) can conventionally be reduced by providing signal separation in the transmission of different signals. Cochannel signal separation is conventionally provided in an FDMA system by providing physical separation between two transmitters using the same carrier frequency and between the respective receiving base stations. Accordingly, a first signal is received by the first base station at a significantly higher strength than a second signal, and the second signal is received by the second base station at a significantly higher strength than the first signal. As cell sizes are reduced to provide greater capacity, however, the differences in signal strengths may be reduced making it difficult to receive one or both co-channel signals. Interference from signals transmitted on adjacent carrier frequencies (adjacent channel interference or ACI) can be accommodated by filtering the carrier frequency of interest.

The Office Action argues one of ordinary skill in the art would want to increase the information transmission rate of the system and he/she would do so using Ishio's layered modulation scheme. However, even if this were true (instead of using any number of other possible ways to increase the information transmission rate) one must consider that in the Arslan system, signals from different transmitters are regarded as *interference.* Therefore, if one of ordinary skill in the art were to increase the information transmission rate in a *non-interfering way* using layered modulation, they would modify *each* transmitter to transmit a coherent layered modulation signal that would be received and demodulated. Other transmitters would still be transmitting an *interfering* signal that the Arslan system would still reject. Therefore, Arslan, Ishio, and all prior art the Applicants are aware of teach rejecting non-coherent signals as interference. There is no teaching of *non-coherent* layered modulation in either Arslan or Ishio, even when combined.

<u>With Regard to Claims 1 and 23:</u> Claim 1 recites:

> *An apparatus for receiving a non-coherent layered modulation signal, comprising:*

a tuner for receiving the non-coherent layered signal and producing a layered in-phase signal and a layered quadrature signal therefrom;

an analog-to-digital converter for digitizing the layered in-phase signal and the layered quadrature signal; and

a processor for decoding the layered in-phase signal and the layered quadrature signal to produce one or more discrete layer signals.

The Office Action indicates that the A/D converter for digitizing the layered in-phase signal and the layered quadrature signal is disclosed as follows:

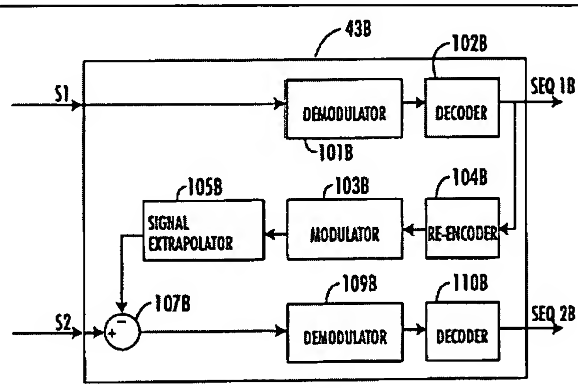

FIG. 4B

FIG. 4B includes first and second decoders **102B** and **110B** and encoder **104B**. The successive cancellation block of FIG. 4B is similar to that of FIG. 4A with the exception that the estimate of the first information sequence is decoded using decoder **102B** and re-encoded using re-encoder **104B**

The Applicants do not see where an A/D converter is disclosed in the foregoing, and therefore traverse this rejection.

The Applicants also note another key architectural distinction between the invention expressed in claim 1 and the system shown in FIG. 4B of the Arslan reference and FIG. 5 of the Ishio reference. Both references require a "remodulator" (element 103B in the Arslan reference and element 21 in the Ishio reference). The Applicants' invention, however, does not require remodulation of the ideal upper layer signal. Instead, the architecture of the Applicants' invention demodulates the upper layer (with elements 512 and 532 of FIG. 5) and subtracts the difference between the ideal upper layer signal and the layered signal without the remodulation required in both Ishio and Arslan, saving cost, circuit complexity, and power.

The analysis of claim 23 is analogous.

With Respect to Claims 11 and 33: Claim 11 and 33 recite that the layered in-phase signal and the layered quadrature signal are delayed by correlating the ideal in-phase upper layer signal and the ideal quadrature upper layer signal. According to the Office Action, this is disclosed as follows:

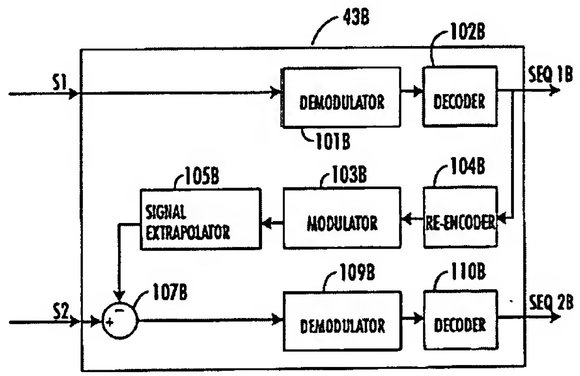

FiG. 4B

The estimate of the information sequence Seq1A is then modulated using modulator 103A to reconstruct the separated baseband signal S1, and the reconstructed baseband signal is extrapolated using signal extrapolator 105A to estimate the effect of the first information signal on the second separated baseband signal S2. The extrapolated signal is then subtracted from the second separated baseband signal S2 to provide more accurate demodulation of the second information signal thus providing a more accurate estimate of the second information sequence Seq2B. The

The foregoing indicates that the re-encoded and modulated signal is extrapolated to estimate the effect of the first information signal on the separated baseband signal. It does not; however disclose that the delay is determined by correlating an ideal in-phase upper layer signal and an ideal quadrature upper layer signal.

With Respect to Claims 13-15 and 35-37: These claims recite specific signal processing techniques that are not disclosed in the Arslan reference. For example, claim 14 recites the use of a signal map, while the referenced portion of the Arslan reference discloses the use of successive cancellation loops.

With Respect to Claim 16: A described above, even when combined, Arslan does not disclose non-coherent layered modulation. Also, while Arslan discloses a signal extrapolator 105B, it does not disclose that the signal extrapolator characterizes both transmission and processing effects.

With Respect to Claims 17-22: Claims 17-22 are patentable for the same reasons as claim 16 and claims 2-15 described above.

With Respect to Claims 23-37: A described above, even when combined, Arslan does not disclose non-coherent layered modulation. Also, while Arslan discloses a signal extrapolator 105B, it

does not disclose digitizing the layered in phase signal and the layered quadrature signal. Claims 24-37 are patentable for the same reasons described with respect to claims 2-15.

With Respect to All Claims Rejected Based on Inherency: Inherency "may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1269(Fed. Cir. 1991). Instead, to establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." *Continental Can Co.*, 948 F.2d at 1268. Nothing in the Arslan reference requires that the functions described in the associated claims be performed. The Applicants therefore respectfully traverse.

2. The Rejection Based on Ishio in View of Anderson

On page (20), the Office Action rejected claims 1-37 under 35 U.S.C. § 103(a) as being unpatentable over Ishio and further in view of Anderson et al., U.S. Patent No. 6,297,691 (Anderson). Applicants respectfully traverse these rejections.

According to the Office Action, Ishio discloses layered modulation, but does not disclose the use of layered modulation with non-coherent layers. The Office Action then reasons that Anderson since discloses a non-coherent signal, it would be obvious to one of ordinary skill in the art "demodulate coherence and non-coherence signals reducing the cost of the decoder and to have compatibility with other systems" to offer compatibility with other systems.

The Applicants respectfully disagree. Anderson discloses a single circuit that is capable of demodulating signals in either the HART (coherent) or ISII (non-coherent) protocols. It does not disclose or suggest the demodulation of a multi-layer modulation signal with non-coherently modulated layers. Further, if one of ordinary skill in the art were to want to modify the Ishio system to allow compatibility with other systems (the Office Action's proffered motivation for modifying Ishio as described in Anderson), Anderson teaches that he/she would do so with a circuit that would operate with either one signal or the other, not by combining non-coherent layers.

3. The Rejection Based on Ishio in View of Ben Efraim

On page (21), the Office Action rejected claims 5, 9, 13, 15, 27, 31, 35, and 37 under 35 U.S.C. § 103(a) as being unpatentable over Ishio as applied to claims 1, 7, 12, 23, 29, and 34, and further in view of Ben-Efraim et al., U.S. Patent No. 5,999,793 (Ben-Efraim). Applicants respectfully traverse these rejections.

As described above, Ishio fails to teach layered non-coherent signals, and Ben Efraim does not overcome this deficiency. Also, the modulation and demodulation technique involved is entirely different than that of Ishio. In particular, the signal that is match filtered by the Applicants' invention is a non-coherent layered signal. It is not apparent to the Applicants that based on the Ben Efraim disclosure match filtering would be an obvious modification of the Ishio reference.

4. The Rejection Based on Arslan in View of Ishio

On page (23), the Office Action rejected claims 5, 9, 13, 15, 27, 31, 35, and 37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Arslan as applied to claims 1, 7, 12, 23, 29, and 34 and further in view of Ben-Efraim. Applicants respectfully traverse these rejections.

As described above, Arslan fails to teach layered non-coherent signals. Ben-Efraim does not overcome this deficiency. Also, the modulation and demodulation technique involved is entirely different than that of Ishio. In particular, the signal that is match filtered by the Applicants' invention is a non-coherent layered signal. It is not apparent to the Applicant that based on the Ben Efraim disclosure match filtering would be an obvious modification of the Ishio reference.

Further, claims 15 and 37 recite amplitude and phase matching, not match filtering, and claim 35 recites pulse shaping. These features are not disclosed in the Ben Efraim reference.

VII. <u>Dependent Claims</u>

Dependent claims 2-15, 17-22, and 24-37 incorporate the limitations of their related independent claims, and are therefore patentable on this basis. In addition, these claims recite novel elements even more remote from the cited references. Accordingly, the Applicants respectfully request that these claims be allowed as well.

VIII. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

Georgann S. Grunebach, Reg. No. 33,179
Attorney for Applicants

Date: July 13, 2005

The DIRECTV Group, Inc.
RE / R11 / A109
P.O. Box 956
2250 E. Imperial Highway
El Segundo, CA 90245-0956

Phone: (310) 964-4615

IN THE DRAWINGS

Please amend Figures 1A-1C and 2A-2C as described in the attached substitute pages.